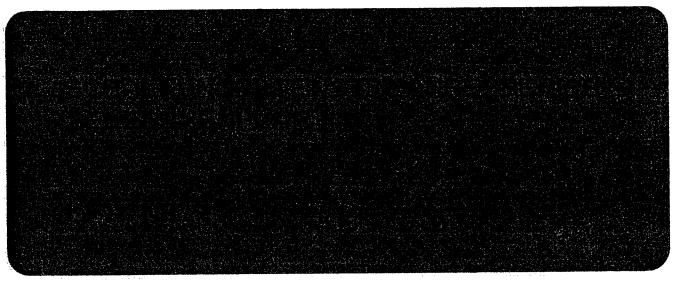
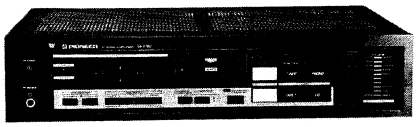
PIONEER®

Service Manual



CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS



ORDER NO.
ARP-826-0

STEREO AMPLIFIER

SA-V1160(BK)

MODEL SA-V1160 COMES IN FOUR VERSIONS DISTINGUISHED AS FOLLOWS.

Type	Applicable model		Power requirement	Destination
	SA-V1160 [BK]	SA-V1160		
KU	○	–	AC120V only	U.S.A.
KC	○	–	AC120V only	Canada
YP	○	–	AC 240V only	Australia
S	○	○	AC110V, 120V, 220V, 240V (Switchable)	General export

- This service manual is applicable to the KU type.
- For servicing of the YP, S types, please refer to the additional service manual (ARP-827-0).
- For servicing of the KC type, please refer to the additional service manual (ARP-869-0).
- SA-V1160 [BK] in the same as the SA-V1160 except for the exterior design (color).

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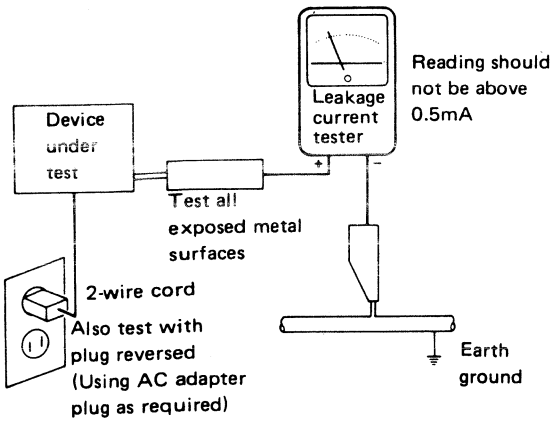
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

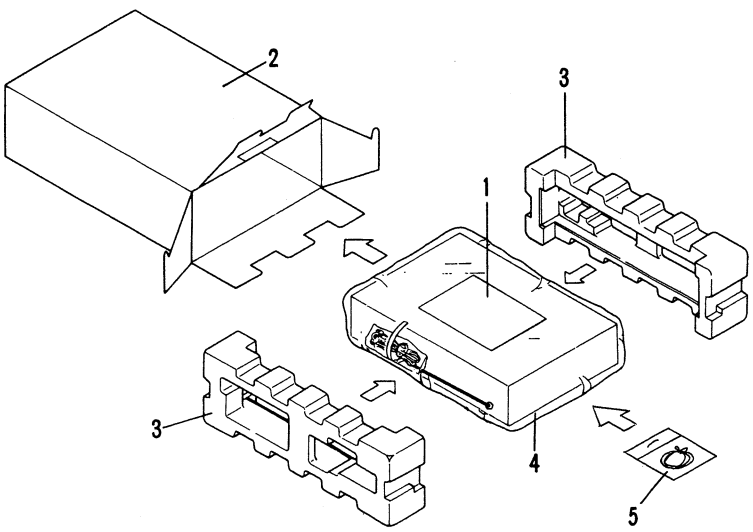
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. PACKING

Mark	No.	Part No.	Description
	1	ARB-662	Oprating instructions (English)
	2	AHE-512	Packing case
	3	AHA-340	Front rear pad
	4	AHG-131	Polyethylene sheet
	5	AEA-057	Cable



QUESTIONNAIRE

MODEL _____

One Model per questionnaire

Dear Servicer,

Thank you for your cooperation in the post-sale service of Pioneer products.

This questionnaire is used as a tool to improve the serviceability of our products and service manuals. Please evaluate this model and service manual by answering the following questions. Your ideas may be realized in our future products. Your answers will be appreciated. Thank you.

PIONEER ELECTRONIC CORP.

T. Nakagawa, Manager, Service Section, International Division

1. SERVICING EVALUATION	Circle applicable number:	Good		Fair		Poor
a. Disassembly/Re-assembly:		1	2	3	*4	*5
b. Circuit Checks:		1	2	3	*4	*5
c. Replacement of Parts:		1	2	3	*4	*5
d. Adjustment (s):		1	2	3	*4	*5

* If (4) or (5) was circled, please be specific.

e. Your advice, opinion or ideas related to servicing this product.

2. SERVICE MANUAL EVALUATION

a. Circuit & Mechanism Description

b. Circuit Diagram

3. OTHER

Please describe other areas of servicing which you may find difficult.

Completed by : Date :

Company Name :

Address :

City/State/Zip :

Please send this form filled to the distributor in your country.

3. SPECIFICATIONS

Amplifier Section

Continuous average power output is 100 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

Continuous Power Output (both channels driven)
T.H.D. 0.05%, 1 kHz, 8 Ω ..... 120 W per channel
T.H.D. 0.05%, 20 Hz to 20 kHz, 8 Ω ..... 100 W per channel
Input (Sensitivity/Impedance)
PHONO ..... 2.5 mV/50 kΩ
TUNER, CD, TAPE PLAY, AUDIO IN
ADAPTOR IN ..... 150 mV/50 kΩ
Phono Overload Level (T.H.D. 0.01%, 1 kHz)
..... 150 mV
Output (Level/Impedance)
Headphone ..... 67 mV/8 Ω
Frequency Response
PHONO (RIAA Equalization)
..... 20 Hz to 20 kHz ±0.3 dB
Tone Control
BASS ..... ±10 dB (100 Hz)
TREBLE ..... ±10 dB (10 kHz)
Loudness Contour(Volume control set at −40 dB position)
100 Hz ..... +6 dB
10 kHz ..... +3 dB
Hum and Noise (IHF, short circuited, A network)
PHONO ..... 81 dB
CD, AUDIO IN, ADAPTOR IN, TUNER,
TAPE PLAY ..... 104 dB
Speaker Load Impedance
A or B ..... 6 — 16 Ω
A + B ..... 6 — 16 Ω

Video/VHF Section

Input (Sensitivity/Impedance)
VDP/VCR 1, VCR 2 ..... 1 Vp-p/75 Ω unbalanced
Output (Level/Impedance)
VCR 2, Monitor TV ..... 1 Vp-p/75 Ω unbalanced
RF (VHF) Input/Output ..... 75 Ω unbalanced

Miscellaneous

Power Requirements
HB, YP models ..... a.c. 240 V ~, 50/60 Hz
S, S/G models ..... ~AC 110 V/120 V/220 V/240 V (switchable), 50/60 Hz
KU, KC models ..... AC 120 V, 60 Hz

Power Consumption
HB, YP models ..... 700 W
S, S/G models ..... 180 W
KU model ..... 180 W (UL)
KC model ..... 500 VA (CSA)
Dimensions ..... 420 (W) x 98 (H) x 312 (D) mm
16-1/2 (W) x 3-7/8 (H) x 12-1/4 (D) in
Weight (without package) ..... 8 kg (17 lb 10 oz)

Furnished Parts

Operating Instructions 1
VHF connecting cord (F-type plug) 1
RCA-BNC Adaptor plug (YP, S models only) 4
F-type-PAL Adaptor plug (YP, S models only) 3

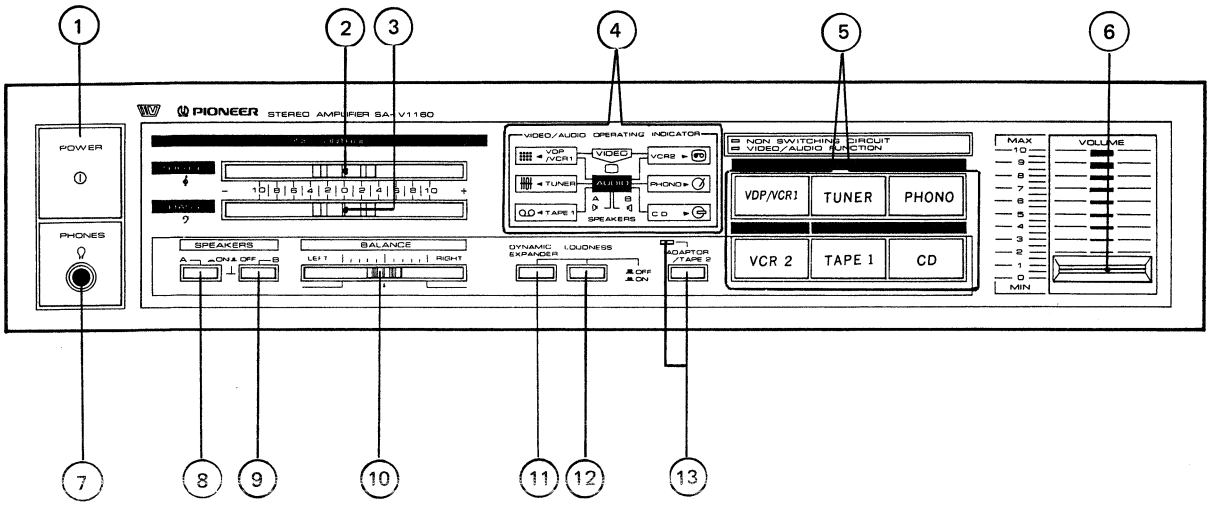
NOTE:

- *Specifications and design subject to possible modification without notice due to improvements.*
- **Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifier.*

4. FRONT PANEL FACILITIES

FRONT PANEL

Indications on the actual unit may differ from those in the illustration. However, operating procedures are the same.



① POWER switch

Press to turn power to the unit ON and OFF.
Depressed position (ON):
Power is supplied to the unit.
Released position (OFF):
Power to the unit is disconnected.

② TREBLE tone control

Use to adjust the high-frequency tone.
The central "0" position is the flat (normal) position. When moved to the right, high-frequency tones are emphasized; when moved to the left, high-frequency tones are de-emphasized.

③ BASS tone control

Use to adjust the low-frequency tone. The central "0" position is the flat (normal) position. When moved to the right, low-frequency tones are emphasized; when moved to the left, low-frequency tones are de-emphasized.

④ Indicators

The indicators light to show the positions of the FUNCTION switches.

⑤ FUNCTION switches

Use to select playback source.
[PHONO] — Press when listening to record playback on a turntable.
[TUNER] — Press when listening to AM or FM broadcasts with a tuner.
[CD] — Press when listening to a compact disc playback with a CD player.
[TAPE 1] — Press when listening to tape playback with a tape deck.
[VDP/VCR 1] — To play back video and audio signals of the component connected to the VDP/VCR 1 terminals.
[VCR 2] — Press for playback of video and audio signals of the component connected to the VCR 2 terminals.

NOTE:
Function switches should be pressed firmly; otherwise, all the function indicators will light, and no output will be produced. If this occurs, press the desired function switch again.

⑥ VOLUME control

Use to adjust volume level.
Move up to increase volume.
Move down to lower volume.

⑦ PHONES jack

When using headphones, insert their plug into this jack.

⑧ SPEAKERS A selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS A terminals.
[ON] — Depressd position: Sound is heard from speaker systems.
[OFF] — Released position: No sound is heard from speaker systems. Set to this position when listening with headphones.

⑨ SPEAKERS B selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS B terminals.
[ON] — Depressed position: Sound is heard from the speaker systems.
[OFF] — Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

⑩ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, move toward the LEFT position and if the left side is louder, move toward the RIGHT position.

⑪ DYNAMIC EXPANDER switch

Setting to the [ON] (depressed) position will increase the dynamic range of playback sound to add "punch," vibrancy and presence. Moreover, it possible to record this sound as well.

NOTE:
Set to the OFF position when listening with the VOLUME control set at 5 or above. Leaving it set to the ON position may result in distorted playback sound.

⑫ LOUDNESS switch

Use when listening at low volume levels.
[OFF] — Released position: Should normally be left in this position.
[ON] — Depressed position: Boosts low and high frequencies to give added punch to playback even at low volume.

⑬ ADAPTOR/TAPE 2 switch/indicator

Use when there is an adaptor component (graphic equalizer, etc.) or tape deck connected to the ADAPTOR/TAPE 2 terminals.
[OFF] — Released position: When not in use.
[ON] — Depressed position: When using the adaptor component or listening to the tape deck.

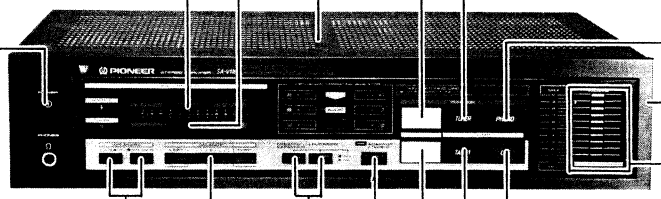
NOTE:
When no connections are made to the ADAPTOR/TAPE 2 terminals, or when they are not in use, be sure to set this switch to the OFF position. (No sound will be heard if it is set to the ON position.)

5. PARTS LOCATION

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ *GENERALLY MOVES FASTER THAN* ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Front Panel View



Slide knob (BASS)
AAY-134

Slide knob (TREBLE)
AAY-134

Power knob (POWER)
AAY-128

Knob (SPEAKER)
AAY-161

Slide knob (B) (BALANCE)
AAY-156

Knob (LOUDNESS, DINAMIC EXPANDER)
AAY-161

Knob (ADAPTOR/TAPE 2)
AAY-161

Bonnet case
ANE-545

Function knob (VDP/VCR1)
AAY-163

Function knob (TUNER)
AAY-132

Function knob (PHONO)
AAY-130

Front panel
ANM-905

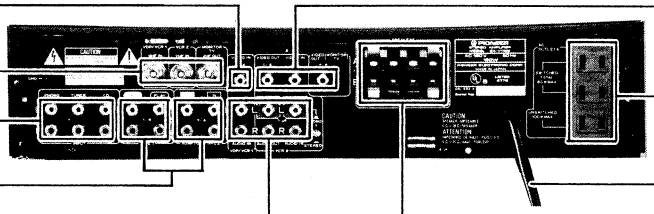
Slide knob assembly (VOLUME)
AXC-025

Function knob (CD)
AAY-131

Function knob (TAPE1)
AAY-133

Function knob (VCR2)
AAY-164

Rear Panel View



Terminal (VIDEO IN)
AKB-111

Terminal (VDP/VCR1, VCR2, TV)
AKX-068

Terminal (INPUT)
AKB-095

Terminal (TAPE, ADAPTOR)
AKB-094

Terminal (VDP/VCR1, VCR2)
AKB-095

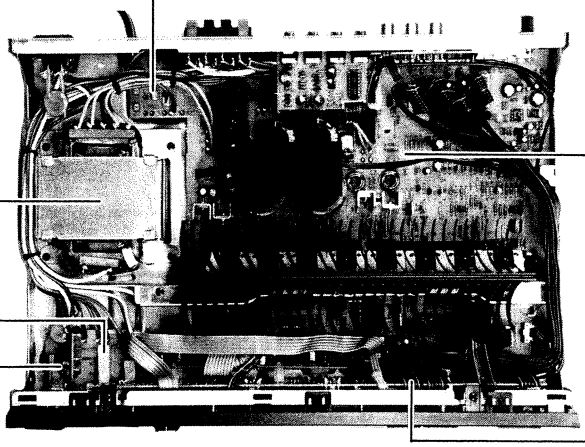
Terminal (VIDEO IN, VIDEO OUT)
AKB-127

⚠ AC socket (3P)
AKP-504

AC power cord
ADG-088

Terminal (SPEAKERS)
AKE-105

Top View



⚠★★ Fuse (6.3A)
AEK-309

⚠★ Power transformer (AC120V)
ATS-013

Speaker switch assembly

⚠★★ Switch (POWER)
ASG-552

AF assembly
GWK-257

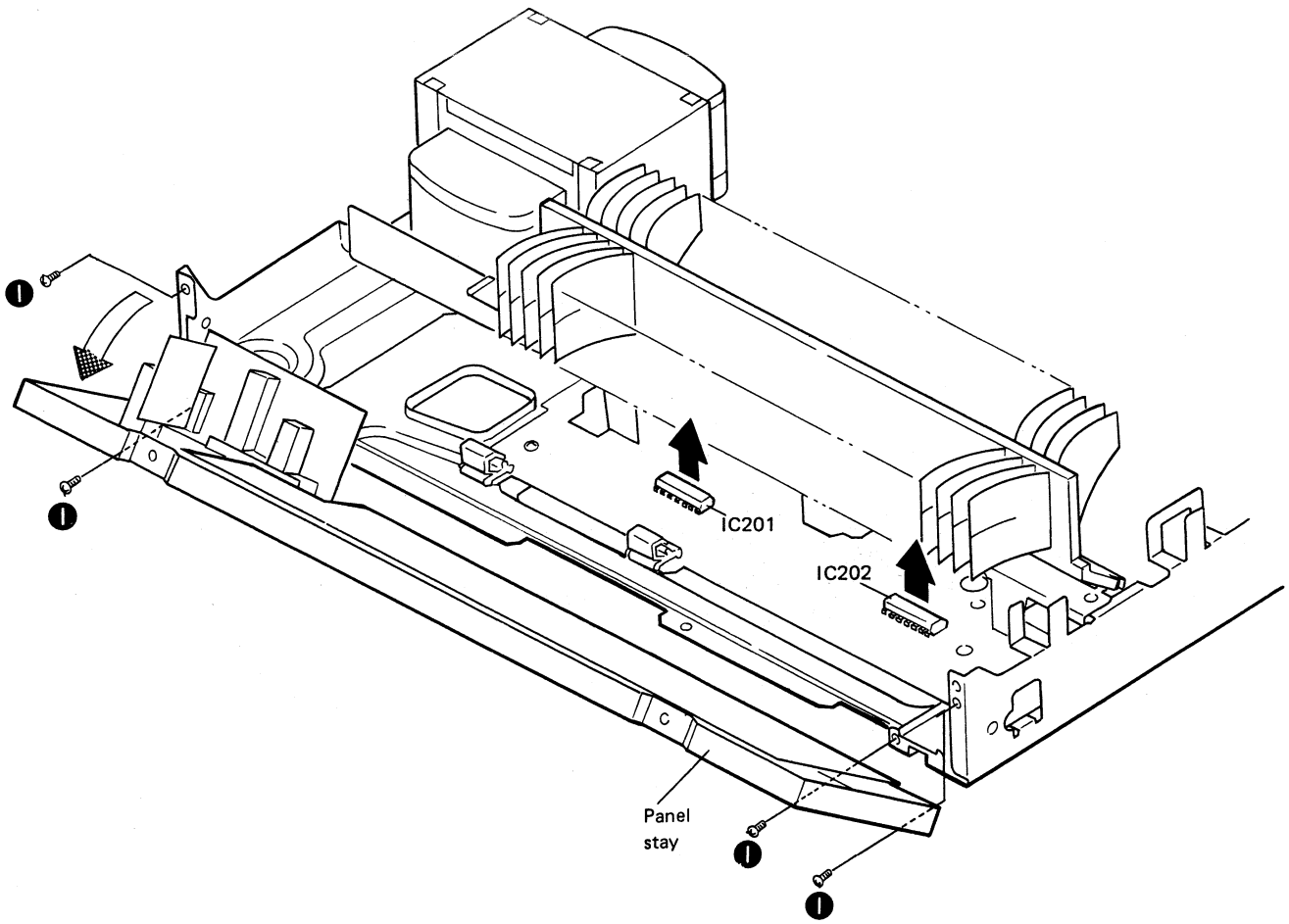
Control assembly
AWG-109

6. DISASSEMBLY

IC REPLACEMENT PROCEDURES

IC201 and IC202

1. Remove the bonnet case.
2. Remove the front panel.
3. Remove the bottom plate.
4. Remove the four panel stay securing screws (❶)
5. Tilt the panel stay at 45° toward the front.
6. Replace IC201/IC202.



7. EXPLODED VIEW

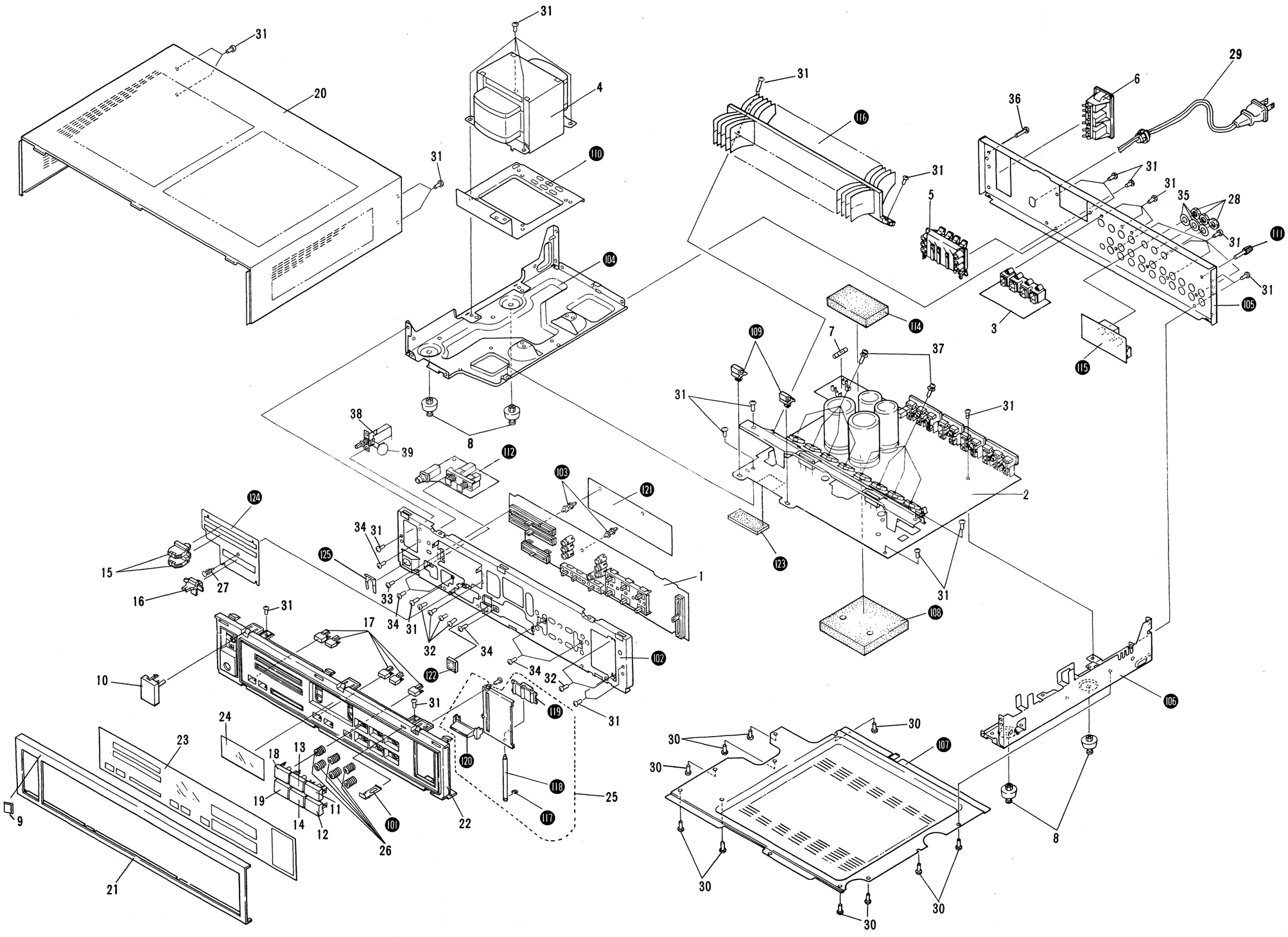
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Parts List

Mark	No.	Part No.	Description
	1	AWG-109	Control assembly
	2	GWK-257	AF assembly
	3	GWG-118	Video (B) assembly
⚠ ★	4	ATS-013	Power transformer (AC120V)
	5	AKE-105	Terminal 8P (SPEAKERS)
⚠	6	AKP-504	AC socket (3P) (AC OUTLETS)
⚠ ★★	7	AEK-309	FU1 Fuse (6.3A)
	8	AEC-847	Leg assembly
	9	AAM-020	V badge
	10	AAY-128	Power knob (POWER)
	11	AAY-130	Function knob (PHONO)
	12	AAY-131	Function knob (CD)
	13	AAY-132	Function knob (TUNER)
	14	AAY-133	Function knob (TAPE1)
	15	AAY-134	Slide knob (BASS, TREBLE)
	16	AAY-156	Slide knob (B)(BALANCE)
	17	AAY-161	Push knob
	18	AAY-163	Function knob (VCR1)
	19	AAY-164	Function knob (VCR2)
	20	ANE-545	Bonnet case
	21	ANM-905	Front panel
	22	ANR-992	Panel base
	23	ANZ-001	Sheet panel (A)
	24	ANZ-019	Sheet panel (B)
	25	AXC-025	Slide knob assembly
	26	ABH-155	Coil spring
	27	AEC-471	Nylon rivet
	28	ABN-087	Nut
⚠	29	ADG-088	AC power cord
	30	BBZ30P060FZK	Screw (3 x 6)
	31	BBZ30P080FZK	Screw (3 x 8)
	32	PMZ20P030FZK	Screw (2 x 3)
	33	VBZ30P060FMC	Screw (3 x 6)
	34	VMZ30P060FMC	Screw (3 x 6)
	35	WAX0F160K100	Washer
	36	ABA-176	Screw
	37	ABA-258	Screw
	38	ASG-552	Switch (POWER)
	39	ACG-502	Ceramic capacitor (0.01/AC400V)

Mark	No.	Part No.	Description
	101		GND plate
	102		Panel stey
	103		P.C.B. holder
	104		Transformer frame
	105		Rear panel
	106		Right frame
	107		Bottom plate
	108		Cushion rubber
	109		Holder
	110		Transformer stay
	111		Terminal (GND)
	112		Speaker switch assembly
	113		.....
	114		Cushion rubber
	115		Video (A) assembly
	116		Heat sink
	117		E ring
	118		Guide shaft
	119		Slider
	120		Slide knob (VOLUME)
	121		Expander assembly
	122		Cushion rubber
	123		Cushion rubber
	124		Blind sheet
	125		Mount plate

Exterier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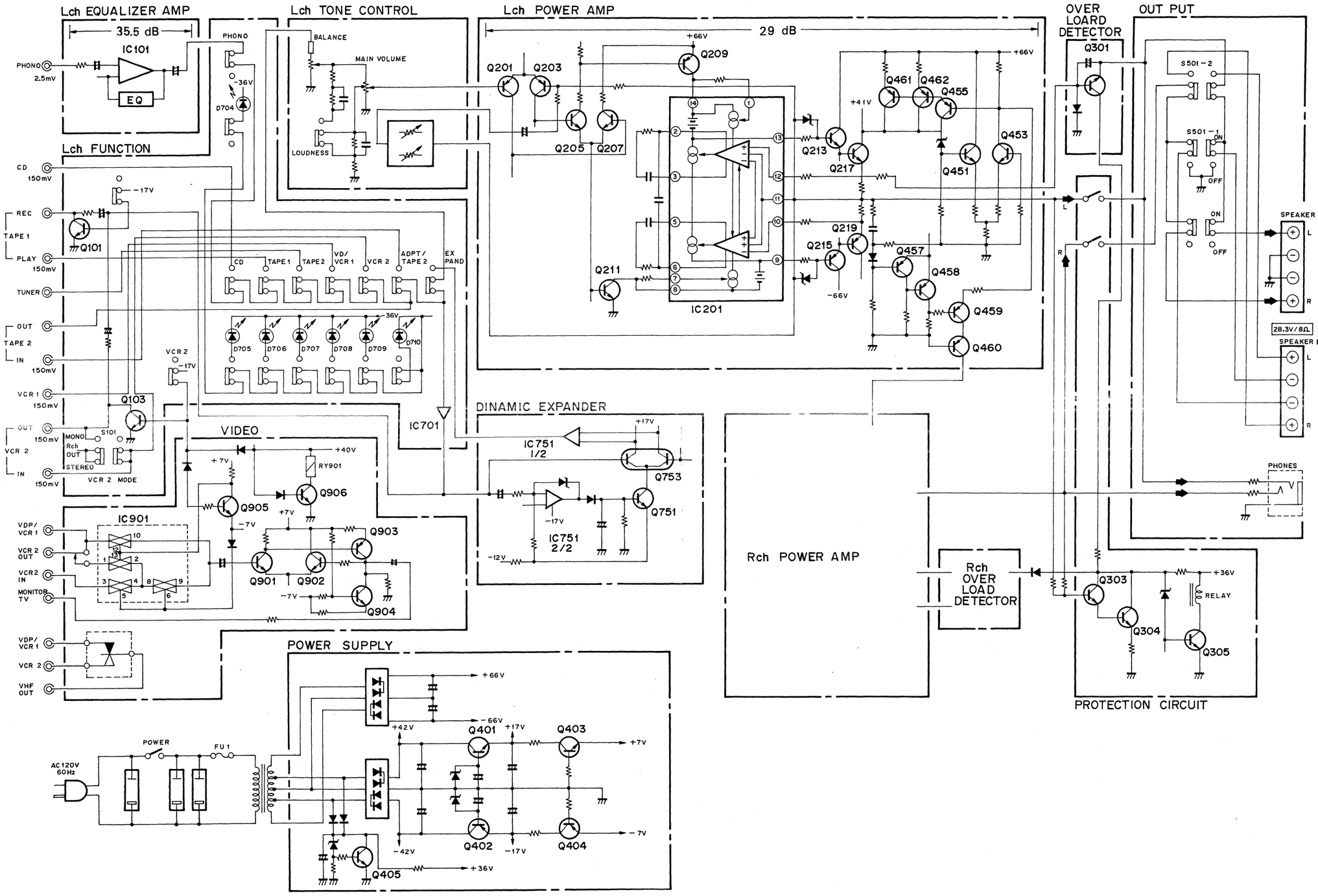
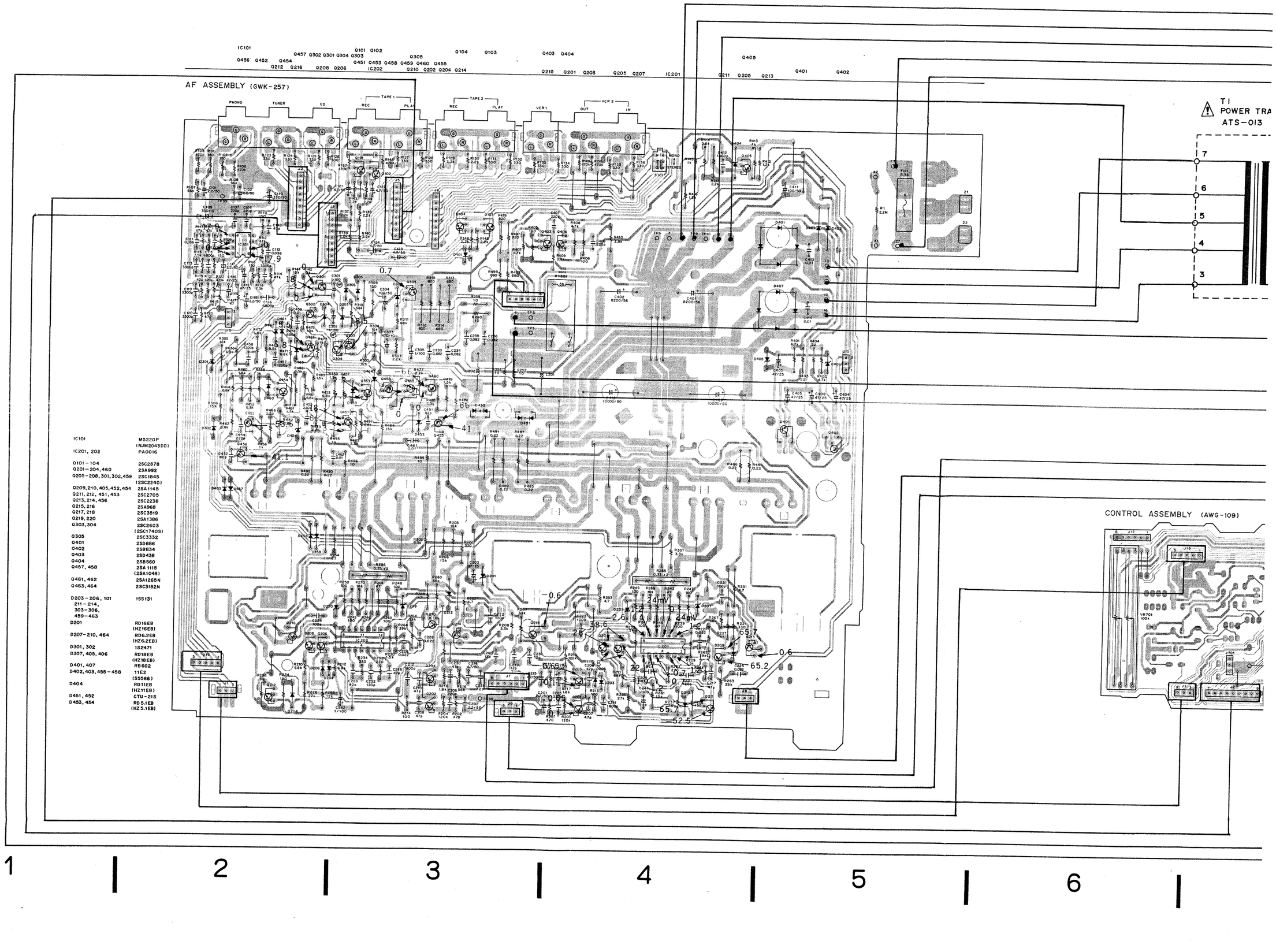
8. BLOCK DIAGRAM



9. P.C.BOARDS CONNECTION DIAGRAM



T1
POWER TRANSFORMER
ATS-013

S1

C1 ACG-502

AC POWER CORD
ADG-088

AC 120V
60 Hz

C2
0.01

AC OUTLETS
AKP-504

SPEAKER SWITCH ASSEMBLY

L
SPEAKER A
R

23.7V/8Ω

L
SPEAKER B
R

A

B

VIDEO ASSEMBLY (B) GWO-118

IC901	TC4066BP (μPD4066BC)
Q901, 902, 904	2SC1740S (2SC2458)
Q903	2SA933S
Q905	2SC2878
D901, 902, 903	1SS131

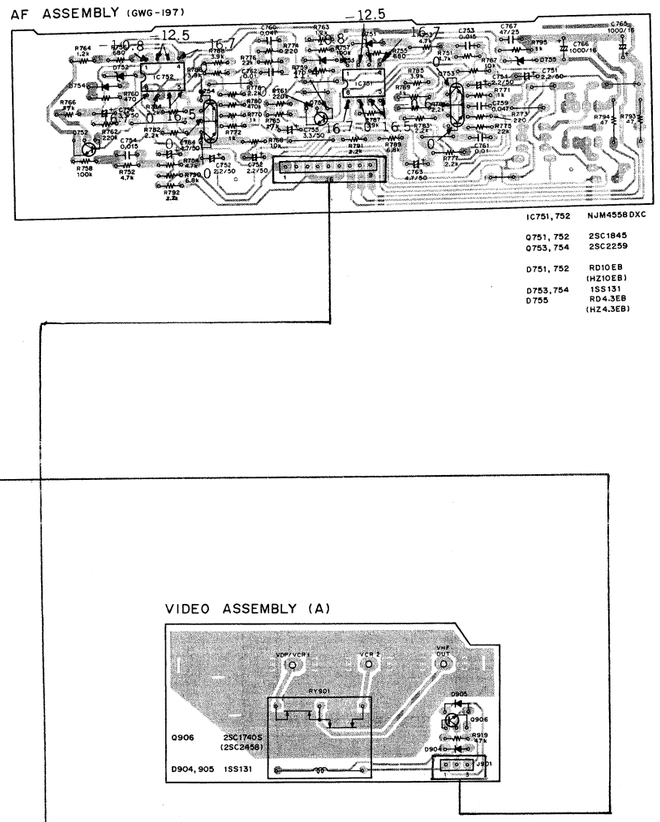
MONITOR TV
VCR 2 IN
VCR 2 OUT
VCR 1

EMBLY (AWG-109)

IC701	NJM4558DXC
Q701	2SA933S (2SA1048)
D703	RD3.0EB (HZ3.0EB)
D704-709	AEL-388
D710	AEL-420

C

D



10. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 x 10¹*	*561*	*RD¼PS 5 6 1 J*
47kΩ	*47 x 10³*	*473*	*RD¼PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 x 10¹*	*5621*	*RN¼SR 5 6 2 1 F*

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number , temperature, humidity, etc.

Miscellaneous Part List

P.C. BOARD ASSEMBLIES

Mark	Sybmol & Description	Part No.
	Control Assembly	AWG-109
	AF Assembly	GWK-257
	AF Assembly	GWG-197
	Video (B) Assembly	GWQ-118
	Speaker Switch Assembly	Non supply
	Video (A) Assembly	Non supply

OTHERS

Mark	Symbol & Description	Part No.
⚠ ★	C1 Ceramic capacitor (0.01/AC400V)	ACG-502
⚠ ★	T1 Power transformer (AC120V)	ATS-013
	Terminal (8P) ,SPEAKERS)	AKE-105
⚠	AC Socket (3P) (AC OUTLETS)	AKP-504
⚠ ★★	FU1 Fuse (6.3A)	AEK-309
⚠	AC Power cord	ADG-088
⚠ ★★	S1 Switch (POWER)	ASG-552

Control Assembly (AWG-109)

SEMICONDUCTORS

Mark	Sybmol & Description	Part No.
★★	IC701	NJM4558DXC
★★	Q701	2SA933S (2SA1048)
★	D703	RD3.0EB (HZ3.0EB)
★	D704 – D709 (LED)	AEL-388
★	D710 (LED)	AEL-420

SWITCHES

Mark	Symbol & Description	Part No.
★★	S701 Push switch (FUNCTION)	ASG-826
★★	S702 Push switch (ADPT/TAPE2, LOUDNESS, EXPANDER)	SEA7V22B4S

CAPACITORS

Mark	Symbol & Description	Part No.
	C709, C710, C717, C718	CCCSL221J50 (CCDSL221J50)
	C703, C704	CEAS010M50
	C714	CEAS101M16
	C605, C606	CEAS4R7M50
	C705, C706, C713	CEAS470M25
	C609, C610	CQMA122K50
	C603, C604	CQMA124K50
	C601, C602	CQMA333K50
	C611, C612	CQMA472K50
	C711, C712	CQMA563K50

RESISTORS

Note: When ordering resistors, convert the resistance into code form, and then rewrite the part no. as b

Mark	Symbol & Description	Part No.
★★	VR601, VR602 (TREBLE, BASS)	ACX-137
★★	VR702 (BALANCE)	ACX-138
★★	VR701 (MAIN)	ACX-139
	R601, R602, R609, R610	RD1/4PM103J
	R709, R710	RFA1/4PS470J
	Other resistors	RD1/8PM □□□

AF Assembly (GWG-197)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC751, IC752	NJM4558DXC
★★	Q751, Q752	2SC1845
★★	Q753, Q754	2SC2259
★	D751, D752	RD10EB (HZ10EB)
★	D755	RD4.3EB (HZ4.3EB)
★	D753, D754	1SS131

CAPACITORS

Mark	Symbol & Description	Part No.
	C765, C766	CEAS102M16
	C751, C752, C757, C758	CEAS2R2M50
	C755, C756	CEAS3R3M50
	C763, C764	CEAS4R7M50
	C767	CEAS470M25
	C761, C762	CQMA103K50
	C753, C754	CQMA153K50
	C759, C760	CQMA473K50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R793, R794	RD1/4PMFL470J
	Other resistors	RD1/8PM □□□J

AF Assembly (GWK-257)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	M5220P (NJM2043DD)
★★	IC201, IC202	PA0016
★★	Q457, Q458	2SA1115 (2SA1048) (2SA933S)
★★	Q209, Q210, Q405, Q452, Q454	2SA1145
★★	Q461, Q462	2SA1265N
★★	Q219, Q220	2SA1386
★★	Q215, Q216, Q455	2SA968
★★	Q201 – Q204, Q460	2SA992
★★	Q404	2SB560
★★	Q402	2SB834
★★	Q205 – Q208, Q301, Q302, Q459	2SC1845 (2SC2240) (2SA933S)
★★	Q213, Q214, Q456	2SC2238
★★	Q303, Q304	2SC2603 (2SC1740S) (2SC2458)
★★	Q211, Q212, Q451, Q453	2SC2705
★★	Q101 – Q104	2SC2878
★★	Q463B, Q464B	2SC3182N
★★	Q305	2SC3332
★★	Q217, Q218	2SC3519
★★	Q403	2SD438
★★	Q401	2SD880
★	D451, D452	CTU-21S
★	D401, D407	RB602
★	D404	RD11EB (HZ11EB)
★	D201	RD16EB (HZ16EB)
★	D307, D405, D406	RD18EB (HZ18EB)
★	D453, D454	RD5.1EB (HZ5.1EB)
★	D207 – D210, D464	RD6.2EB (HZ6.2EB)
★	D101 – D206, D211 – D214, D303, D304 – D306, D459, D460 – D463	1SS131
★	D301, D302	1S2471
★	D402, D403, D455 – D458	11E2 (S5566)

SWITCHE & RELAY

Mark	Symbol & Description	Part No.
★★	S101 Push switch (VCR2 MODE)	ASG-424
★★	RY301 Relay	ASR-107

COILS

Mark	Symbol & Description	Part No.
	L201, L202 AF choke coil	ATH-054

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C413, C414 (0.01/AC150V)	ACG-019
	C401, C402 (8200/56V)	ACH-238
	C409, C410 (10000/80V)	ACH-260
	C221 – C224	CCCSL101K500 (CCDSL101K500)
	C237 – C240	CCCSL120J50 (CCDSL120J50)
	C231, C232	CCCSL121J50 (CCDSL121J50)
	C107, C108, C205, C206, C407, C408, C453, C454	CCCSL221J50 (CCDSL221J50)
	C147, C148, C207 – C210, C217, C218	CCCSL470J50 (CCDSL470J50)
	C219, C220, C451, C452	CCCSL820J50 (CCDSL820J50)
	C101, C102	CEANL2R2M50
	C301, C302	CEANP010M100
	C241, C242, C305	CEAS010M100
	C304, C411	CEAS101M50
	C117, C118, C201, C202	CEAS2R2M50
	C109, C110	CEAS331M10
	C121 – C124, C215, C216	CEAS4R7M50
	C203, C229, C230, C403 – C406, C415, C416	CEAS470M25
	C303	CEAS471M10
	C211, C212, C412	CKCYB182K50 (CKDYB182K50)
	C225 – C228	CKCYF223Z50 (CKDYF223Z50)
	C459, C461, C462	CQMA103K50
	C457, C458	CQMA122J50
	C113, C114, C119, C120	CQMA332J50
	C111, C112	CQMA363J50
	C115, C116	CQMA682J50
	C233 – C236	CQMA823K50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R255, R256 (0.33Ω x 2)	ACN-139
⚠	R1 (2.2MΩ)	ACN-209
	R313 – R316, R459, C460, C478 – R484, R498, R499	RD1/2PM □□□J
⚠	R257 – R260, R405, R406, R301, R302, R205 – R208, R225, R226, R261 – R266, R269, R270, R301 – R306, R309, R401, R402, R407 – R416, R451 – R458, R461 – R466, R469 – R472	RD1/4PMFL □□□J
⚠	R221 – R224, R227, R228, R237 – R254, R308, R403, R404, R417, R418, R495, R496	RFA1/4PS □□□J
⚠	R485 – R492	RS1PMFR22J
	Other resistors	RD1/8PM □□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (TAPE/ADAPTOR)	AKB-094
	Terminal (INPUT)	AKB-095
	Mica wafer	AEC-818
		ABA-258
	Screw (3 x 8)	BBZ30P080FZK
	Screw (3 x 8)	PBZ30P080FMC

Speaker Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S501 Push switch (SPEAKER)	SUL8MYXSFC

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R503, R504	RS1LMF391J
⚠	R501, R502	RS2LMF471J

OTHERS

Mark	Symbol & Description	Part No.
	Jack (PHONES)	AKN-045

Video (A) Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q906	2SC1740S (2SC2458)
★	D904, D905	1SS131

RELAY

Mark	Symbol & Description	Part No.
★★	RY901 Relay	ASR-082 (ASR-083)

RESISTOR

Mark	Symbol & Description	Part No.
	R919	RD1/8PM473J

Video (B) Assembly (GWQ-118)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC901	TC4066BP (μPD4066BC)
★★	Q903	2SA933S
★★	Q901, Q902, Q904	2SC1740S (2SC2458)
★★	Q905	2SC2878
★	D901 – D903	1SS131

COILS

Mark	Symbol & Description	Part No.
	L901, L902	ATH-050

CAPACITORS

Mark	Symbol & Description	Part No.
	C903	CCCSL180J (CCDSL180J50)
	C902, C907, C908	CEAS101M10
	C901	CEAS330M16
	C906	CEAS471M6
	C905, C909, C910	CKCYB103K50 (CKDYB103K50)

RESISTORS

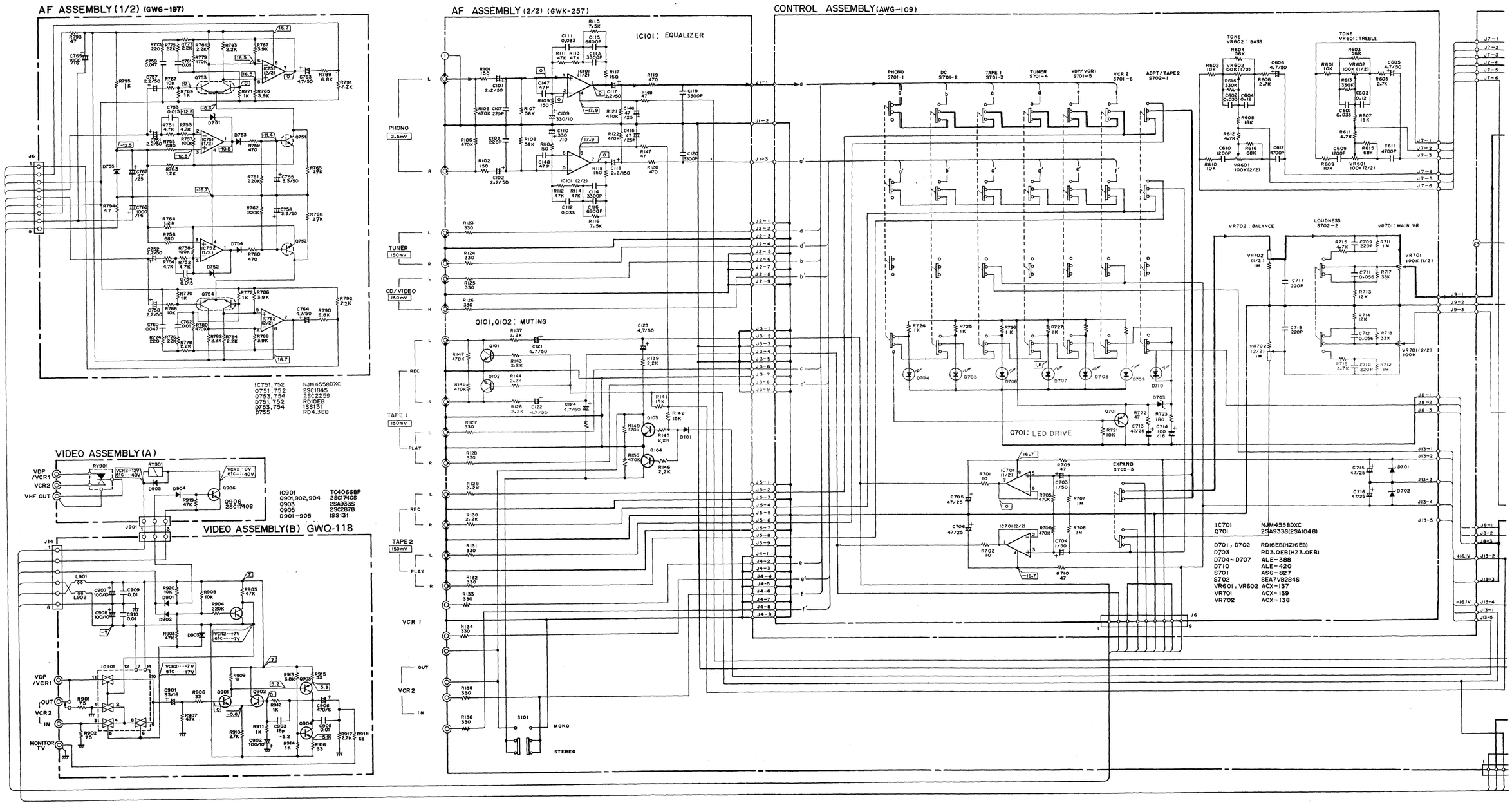
Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM □□□J

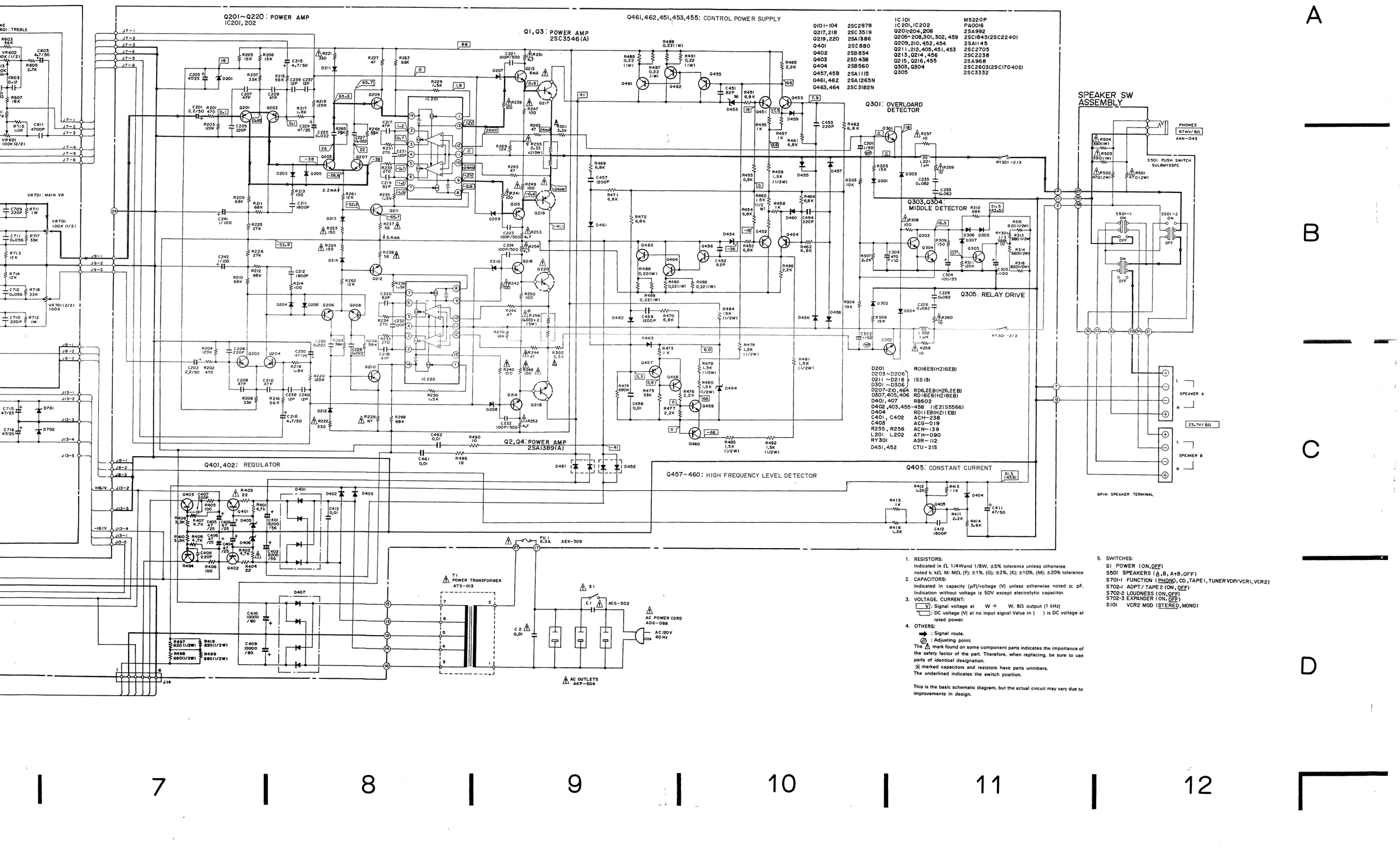
OTHERS

Mark	Symbol & Description	Part No.
	Terminal (VDP/VCR1, VCR2, VHF OUT)	AKB-111
	Terminal (VDP/VCR1, VCR2, OUT VCR2 IN, MONITOR TV)	AKB-127

11. SCHEMATIC DIAGRAM



NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



1. RESISTORS:
   Indicated in Ω, 1/4Wand 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p: pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   (V): Signal voltage at W + W, 8Ω output (1 kHz)
   : DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power.
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts unmbers.
   The underlined indicates the switch position.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES:
   S1 POWER (ON, OFF)
   S501 SPEAKERS (A, B, A+B, OFF)
   S701-1 FUNCTION (PHONO, CD, TAPE1, TUNER/VDP/VCR1, VCR2)
   S702-1 ADPT/TAPE2 (ON, OFF)
   S702-2 LOUDNESS (ON, OFF)
   S702-3 EXPANDER (ON, OFF)
   S101 VCR2 MOD (STEREO, MONO)

External Appearances of Transistor and ICs

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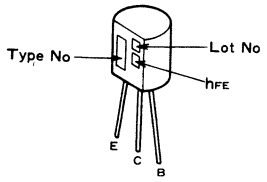
2SC2878
2SA1145



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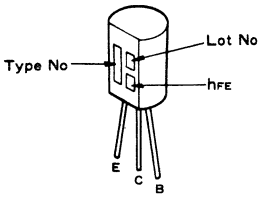

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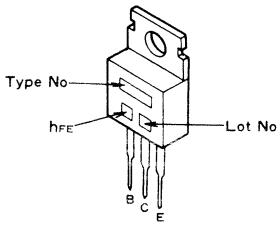
2SD880
2SB834



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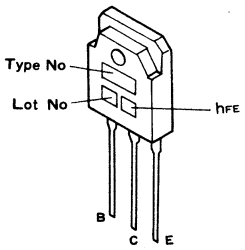

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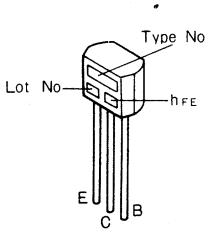

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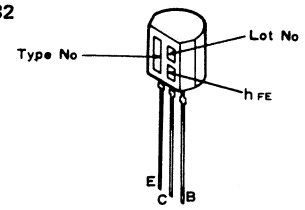

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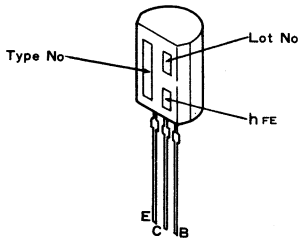

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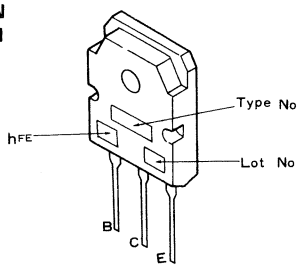

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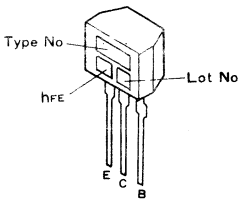

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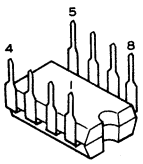
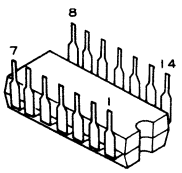
NJM2043D



PA0016
TC4066BP



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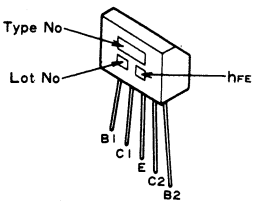

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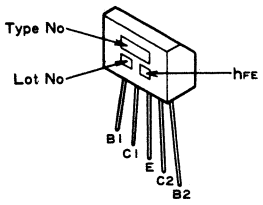

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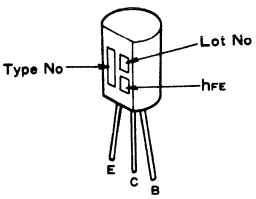

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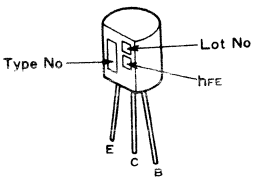

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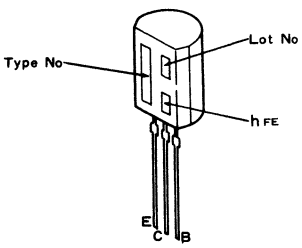

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